

IN THE CLAIMS:

1 1. (CANCELLED)

1 2. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the step of deciding
2 comprises the step of, if the router does not receive a response at all within a predeter-
3 mined time, deciding that the peer router does not support the new TTL mode of opera-
4 tion.

1 3. (CANCELLED)

1 4. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the new TTL mode of
2 operation is defined by BGP TTL Security Hack (BTSH).

1 5. (PREVIOUSLY PRESENTED) The method of Claim 4 wherein the first predeter-
2 mined value of the TTL parameter is 255.

1 6. (PREVIOUSLY PRESENTED) The method of Claim 7 wherein the second predeter-
2 mined value of the TTL parameter is 1.

1 7. (PREVIOUSLY PRESENTED) A method for allowing a router to efficiently deter-
2 mine a time-to-live (TTL) configuration of a peer router in a computer network, the
3 method comprising the steps of:
4 automatically determining which TTL mode of operation the peer router supports
5 by sending an initial Border Gateway Protocol (BGP) message from the router to the peer
6 router, the initial BGP message including a first predetermined value of a TTL parameter;

7 if the router receives a positive acknowledgement of the initial BGP message
8 from the peer router, determining that the peer router supports exchanges of messages
9 using a new TTL mode of operation; and
10 if the router receives a negative acknowledgement of the initial BGP message
11 from the peer router, deciding that the peer router does not support the new TTL mode of
12 operation, and switching to an old TTL mode of operation by resending the initial BGP
13 message with a second predetermined value of the TTL parameter, and subsequently,
14 upgrading the peer router to the new TTL mode of operation,
15 rebooting the peer router, thereby destroying an existing session
16 between the routers,
17 establishing a new session by sending messages with the first pre-
18 determined value of the TTL parameter, and
19 communicating between the routers using messages with the first
20 predetermined value of the TTL parameter.

1 8-12. (CANCELLED)

1 13. (PREVIOUSLY PRESENTED) The apparatus of Claim 15 wherein the means for
2 deciding comprises:

3 means for deciding that the peer router does not support the new TTL mode of
4 operation, if the router does not receive a response at all within a predetermined time.

1 14. (PREVIOUSLY PRESENTED) The apparatus of Claim 15 wherein the new TTL
2 mode of operation is defined by BGP TTL Security Hack (BTSH).

1 15. (PREVIOUSLY PRESENTED) Apparatus adapted to allow a router to efficiently de-
2 termine a time-to-live (TTL) configuration of a peer router in a computer network, the
3 apparatus comprising:

means for sending an initial Border Gateway Protocol (BGP) message from the router to the peer router, the initial BGP message including a first predetermined value of a TTL parameter;

means for determining that the peer router supports exchanges of messages using a new TTL mode of operation, if the router receives a positive acknowledgement of the initial BGP message from the peer router;

means for deciding that the peer router does not support the new TTL mode of operation, if the router receives a negative acknowledgement of the initial BGP message from the peer router, and for switching to an old TTL mode of operation by resending the initial BGP message with a second predetermined value of the TTL parameter;

means for upgrading the peer router to the new TTL mode of operation;

means for destroying an existing session between the routers;

means for sending messages with the first predetermined value of the TTL parameter; and

means for communicating between the routers using messages with the first predetermined value of the TTL parameter.

16. (CANCELLED)

17. (CURRENTLY AMENDED) The computer readable storage medium of Claim 20 wherein the program instruction for deciding comprises one or more program instructions for, if the router does not receive a response at all within a predetermined time, deciding that the peer router does not support the new TTL mode of operation.

18. (CANCELLED)

19. (CURRENTLY AMENDED) The computer readable storage medium of Claim 20 wherein the new TTL mode of operation is defined by BGP TTL Security Hack (BTSH).

1 | 20. (CURRENTLY AMENDED) A computer readable storage medium containing ex-
2 | ecutable program instructions for allowing a router to efficiently determine a time-to-live
3 | (TTL) configuration of a peer router in a computer network, the executable program in-
4 | structions comprising program instructions for:

5 | automatically determining which TTL mode of operation the peer router supports
6 | by sending an initial Border Gateway Protocol (BGP) message from the router to the peer
7 | router, the initial BGP message including a first predetermined value of a TTL parameter;

8 | if the router receives a positive acknowledgement of the initial BGP message
9 | from the peer router, determining that the peer router supports exchanges of messages
10 | using a new TTL mode of operation; and

11 | if the router receives a negative acknowledgement of the initial BGP message
12 | from the peer router, deciding that the peer router does not support the new TTL mode of
13 | operation, and switching to an old TTL mode of operation by resending the initial BGP
14 | message with a second predetermined value of the TTL parameter, and subsequently,

15 | upgrading the peer router to the new TTL mode of operation,

16 | destroying an existing session between the routers,

17 | sending messages with the first predetermined value of the TTL

18 | parameter, and

19 | communicating between the routers using messages with the first
20 | predetermined value of the TTL parameter.

1 | 21-25. (CANCELLED)

1 | 26. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein deciding further
2 | comprises, if a response is not received within a predetermined time, deciding that the
3 | peer router does not support the new TTL mode of operation.

1 | 27. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein the initial message
2 | is a Border Gateway Protocol (BGP) routing protocol message.

1 28. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein the new TTL mode
2 of operation is a BGP TTL Security Hack (BTSH).

1 29. (PREVIOUSLY PRESENTED) A method comprising:

2 sending an initial message to a peer router when a session is established with the
3 peer router, the initial message including a first predetermined value of a time-to-live
4 (TTL) parameter that makes use of the TTL parameter;

5 if a positive acknowledgement of the initial message is received from the peer
6 router, determining that the peer router supports exchanges of messages using a new TTL
7 mode of operation; and

8 if a negative acknowledgement of the initial message is received from the peer
9 router, deciding that the peer router does not support the new TTL mode of operation and
10 switching to an old TTL mode of operation by resending the initial message with a sec-
11 ond predetermined value of the TTL parameter, and subsequently,

12 upgrading the peer router to the new TTL mode of operation,

13 rebooting the peer router, thereby destroying an existing session be-
14 tween the routers,

15 establishing a new session by sending messages with the first predeter-
16 mined value of the TTL parameter, and

17 communicating using messages with the first predetermined value of
18 the TTL parameter.

1 30-33. (CANCELLED)